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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,373	02/10/2004	Seiji Harada	325772034100	1123

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Barry E. Bretschneider  
Morrison & Foerster LLP  
Suite 300  
1650 Tysons Boulevard  
McLean, VA 22102

EXAMINER
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GOLDBERG, BRIAN J

ART UNIT	PAPER NUMBER
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2861

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Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/774,373	<b>Applicant(s)</b> HARADA ET AL.	
	<b>Examiner</b> Brian Goldberg	<b>Art Unit</b> 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/10/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1, 2, 8, 9, 15, 16, 21, 27, and 33 are objected to because of the following informalities:

2. Claims 1, 8, 15, 21, 27, and 33 recite the limitation "said judgment [unit/step]" in line 6 of the claims. There is insufficient antecedent basis for this limitation in the claims. It is recommended that "a judging [unit/step]" in line 2 of the claims is changed to "a judgment [unit/step]".

3. Claims 2, 9, and 16 recite the limitations "the degree of consumption" and "the present time" in lines 4-5 and lines 5-6 of the claims, respectively. There is insufficient antecedent basis for these limitations in the claims.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3, 5, 8, 10, 12, 15, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hough (US 6312072).
6. Regarding claim 1, Hough discloses “a judging unit for judging whether a service life of a loaded developing agent cartridge has expired (col 7 ln 11-24); and an operation mode setting unit for setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment unit determines that the service life of said developing agent cartridge has expired (col 7 ln 52 – col 8 ln 4).”
7. Regarding claims 3, 10, and 17, Hough discloses “said consumption information and service life information are based on a number of printed sheets, a number of effective pixels used in forming images, or an amount of consumed developing agent (col 7 ln 11-24).”
8. Regarding claims 5, 12, and 19, Hough discloses “said developing agent cartridge is either a toner cartridge or an ink cartridge (110 of Fig 2 and col 6 ln 4).”
9. Regarding claims 8 and 15, Hough discloses “a judging step of judging whether a service life of a loaded developing agent cartridge has expired (col 7 ln 11-24); and an operation mode setting step of setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment step determines that the service life of said developing agent cartridge has expired (col 7 ln 52 – col 8 ln 4).”
10. Claims 1, 4, 6, 7, 8, 11, 13, 14, 15, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakuma (US 5530461).
11. Regarding claim 1, Sakuma discloses “a judging unit for judging whether a service life of a loaded developing agent cartridge has expired; and an operation mode

setting unit for setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment unit determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 20-25, Figs 5-7)."

12. Regarding claims 4, 11, and 18, Sakuma discloses "said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center, or a reduced printing speed compared to those of a standard mode (col 6 ln 55-62)."

13. Regarding claims 6 and 13, Sakuma discloses "a judging unit for judging whether a service life of a loaded developing agent cartridge has expired; and an operation mode setting unit for setting up its own operation mode to a safety mode in which a printing process is executed with an increased cleaning frequency compared to that of a standard mode when said judging unit determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 55-63, Figs 5-7)."

14. Regarding claims 7 and 14, Sakuma discloses "said cleaning frequency is such that cleaning is executed in every page of image information (col 1 ln 31-35, col 7 ln 66-67)." Cleaning can be executed every predetermined number of pages, which includes every page.

15. Regarding claims 8 and 15, Sakuma discloses "a judging step of judging whether a service life of a loaded developing agent cartridge has expired; and an operation mode setting step of setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment step determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 20-25, Figs 5-7)."

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16. Regarding claim 20, Sakuma discloses “a computer-readable recording medium on which the printing program described in claim 15 is recorded (35 of Fig 1, col 4 ln 37).”

17. Claims 21, 22, 24, 27, 28, 30, 33, 34, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Phillips et al. (US 6817693).

18. Regarding claim 21, Phillips et al. disclose “a judging unit for judging whether a loaded developing agent cartridge is an authorized product (51 of Fig 3); and an operation mode setting unit for setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment unit determines that said developing agent cartridge is not an authorized product (col 5 ln 64 – col 6 ln 2).”

19. Regarding claim 22, Phillips et al. disclose “a product information reading unit for reading product information for identifying a product of said printing device or said developing agent cartridge stored in a memory unit of said developing agent cartridge (44, 51 of Fig 3), wherein said judging unit determines whether said developing agent cartridge is an authorized product or not by comparing the product information read by said product information reading unit with a product information of an authorized product (col 5 ln 64 – col 6 ln 2, col 6 ln 6-12).”

20. Regarding claim 24, 30, and 36, Phillips et al. disclose “said developing agent cartridge is either a toner cartridge or an ink cartridge (32 of Fig 2 and col 2 ln 61).”

21. Regarding claims 27 and 33, Phillips et al. disclose “a judging step for judging whether a loaded developing agent cartridge is an authorized product (51 of Fig 3); and an operation mode setting step for setting up its own operation mode to a safety mode

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in order to prevent printing troubles when said judgment unit determines that said developing agent cartridge is not an authorized product (col 5 ln 64 – col 6 ln 2)."

22. Regarding claims 28 and 34, Phillips et al. disclose "a product information reading step for reading product information for identifying a product of said printing device or said developing agent cartridge stored in a memory unit of said developing agent cartridge (44, 51 of Fig 3), wherein said judging step determines whether said developing agent cartridge is an authorized product or not by comparing the product information read by said product information reading unit with a product information of an authorized product (col 5 ln 64 – col 6 ln 2, col 6 ln 6-12)."

### ***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 2, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hough in view of Haines et al. (US 6808255).

25. Regarding claims 2, 9, and 16, Hough discloses the claimed invention as set forth above with respect to claims 1, 8, and 15. Hough also discloses "a consumption information reading unit [or step] for reading consumption information that represents the degree of consumption of said developing agent cartridge (col 7 ln 11-24)." Thus

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Hough meets the claimed invention except "at the present time stored in a memory unit of said developing agent cartridge, wherein said judgment unit determines whether the service life of said developing agent cartridge has expired by comparing the consumption information of said developing agent cartridge read by said consumption information reading unit with preset service life information that represents the service life of said developing agent cartridge."

26. Haines et al. teach "a consumption information reading unit [or step] for reading consumption information that represents the degree of consumption of said developing agent cartridge at the present time stored in a memory unit of said developing agent cartridge, wherein said judgment unit determines whether the service life of said developing agent cartridge has expired by comparing the consumption information of said developing agent cartridge read by said consumption information reading unit with preset service life information that represents the service life of said developing agent cartridge (40 of Fig 3, col 2 ln 14-22, ln 36-40, 124 of Fig 4)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to store consumption information in a memory unit of the cartridge and using it to determine service life. One would have been motivated to so modify Hough with the addition taught by Haines et al. for the benefit of providing the manufacturer with usage information of the cartridge which may be utilized in design, manufacture and marketing of subsequent cartridges, as stated by Haines et al.

27. Claims 23, 25, 26, 29, 31, 32, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. in view of Sakuma.



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28. Regarding claims 23, 29, and 35, Phillips et al. disclose the claimed invention as set forth above with respect to claim 21. Thus Phillips et al. meet the claimed invention except the limitations set forth in claims 23, 29, and 35.

29. Sakuma teaches "said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center, or a reduced printing speed compared to those of a standard mode (col 6 ln 55-62)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a safety mode in which a printing process with an increased cleaning frequency is executed. One would have been motivated to so modify Phillips et al. by executing an increased cleaning frequency instead of displaying a warning or shutting down for the benefit of extending the life of the cartridge while minimizing the decrease in printing quality which would normally occur until the printhead is replaced, as stated by Sakuma.

30. Regarding claims 25 and 31, Phillips et al. disclose "a judging unit for judging whether a loaded developing agent cartridge is an authorized product (51 of Fig 3); and an operation mode setting unit for setting up its own operation mode to a safety mode... when said judgment unit determines that said developing agent cartridge is not an authorized product (col 5 ln 64 – col 6 ln 2)." Thus Phillips et al. meet the claimed invention except "a safety mode in which a printing process is executed with an increased cleaning frequency compared to that of a standard mode."

31. Sakuma teaches "a safety mode in which a printing process is executed with an increased cleaning frequency compared to that of a standard mode (col 6 ln 55-62)." It

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would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a safety mode in which a printing process with an increased cleaning frequency is executed. One would have been motivated to so modify Phillips et al. by executing an increased cleaning frequency instead of displaying a warning or shutting down for the benefit of extending the life of the cartridge while minimizing the decrease in printing quality which would normally occur until the printhead is replaced, as stated by Sakuma.

32. Regarding claims 26 and 32, Sakuma further teaches "said cleaning frequency is such that cleaning is executed in every page of image formation (col 1 ln 31-35, col 7 ln 66-67)." Cleaning can be executed every predetermined number of pages, which includes every page.

33. Regarding claim 37, Phillips et al. disclose the claimed invention as set forth above with respect to claim 33. Thus Phillips et al. meet the claimed invention except "a computer-readable recording medium on which the printing program described in claim 33 is recorded."

34. Sakuma teaches "a computer-readable recording medium on which the printing program described in claim 15 is recorded (35 of Fig 1, col 4 ln 37)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a computer-readable medium on which is stored the program set forth above by Phillips et al. One would have been motivated to so modify Phillips et al. by providing a computer-readable medium for the benefit of storing the program for execution by a computer or control unit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BJG

February 10, 2006

**Binh Nguyen**  
**Primary Examiner**  
**Technology Center 2800**